



**Figure 1**—Bird strikes affect both civil and military aircraft: this Navy plane collided with a single turkey vulture in Florida.

## The Strike

Collisions between aircraft and wildlife (wildlife strikes) at airports disrupt air travel and compromise air safety, risking lives in the air and on the ground. These strikes create a greater problem than most people realize. With the number of commercial airline departures exceeding 28 million each year in the United States, aircraft collisions with wildlife are happening more often. Other factors contributing to such collisions include the demand for greater urban development (forcing higher concentrations of wildlife toward undisturbed airport lands), quieter aircraft that are more difficult for wildlife to hear and avoid, and large population increases in many wildlife species themselves.

## The Stats

Wildlife strikes cause more than 530,000 hours of aircraft downtime and cost U.S. civil aviation an estimated \$500 million every year. Birds account for roughly 97 percent of all aircraft collisions with wildlife; the remainder is attributed to large mammals (e.g., deer and coyotes) and reptiles (e.g., alligators). More than 600 deer collisions were reported in the United States from 1990 through 2003. These losses do not include the costs from wildlife strikes to U.S. military aircraft, which are estimated at well over \$100 million per year.

But the problem is actually much worse. Many collisions between aircraft and wildlife go unreported. Experts believe that only 20 percent of all aircraft conflicts with wildlife are ever documented. Reporting detailed information concerning a wildlife strike is vital to determining wildlife problem areas in the system. Every such event should be reported to the Federal Aviation

Administration (FAA) on form 5200-7 (available at <http://wildlife-mitigation.tc.faa.gov> on the Web). This information will assist airports in preventing potentially fatal collisions caused by wildlife.



**Figure 2**—Birds are not the only wildlife hazard to aviation. Although not as common, collisions with other wildlife can be equally life threatening.

## The Rules of the Game

FAA regulations (Title 14, Code of Federal Regulations, Part 139) prescribe rules governing the certification and operation of certain commercial airports. These regulations require certified airports to conduct a wildlife hazard assessment when an aircraft experiences a multiple-wildlife strike, an engine ingestion of wildlife, or substantial damage from striking wildlife. The assessment must also be done when wildlife capable of causing such events are observed to have access to any airport flight pattern or ground movement area. Depending on the results of the wildlife hazard assessment, a wildlife hazard-management plan may also be required.

Wildlife management and habitat modification at airports can help eliminate or greatly reduce collisions between aircraft and birds or other wildlife. This leaflet provides the aviation community with information on how the Federal Government can help with these life-threatening problems.

## The Squeeze Play

The Wildlife Services (WS) program of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service offers consultation and management assistance to assess wildlife conflicts at airports and improve safety by reducing hazards associated with wildlife. WS has a nationwide network of biologists trained and certified in wildlife hazard management at airports. These professional biologists are ready to provide airport site visits and wildlife consultations, develop wildlife hazard assessments and wildlife hazard-management plans, and conduct operational wildlife management programs.

These services may include assistance in complying with Federal and State environmental laws, endangered species and wildlife permit requirements, and conservation and ecology issues. WS also has a major research and development program that provides a solid scientific foundation for its services.

WS personnel provide airport site visits and wildlife consultations without charge as resources permit. These site visits and consultations are designed to help airport managers maintain a safe environment and meet FAA regulatory requirements.

WS can conduct wildlife hazard assessments and develop wildlife hazard-management plans that meet FAA Part 139 criteria through airport-funded agreements. WS can conduct wildlife management programs. Certified biologists from WS can also train airport personnel to recognize hazardous wildlife conditions and to implement appropriate actions.

**Figure 3**—WS biologists must use many methods in an integrated fashion to ensure the safety of wildlife and humans at airports. Quick repair to airport fencing is often necessary to prevent animals from entering operations areas.





United States Department of Agriculture

Animal and Plant Health Inspection Service

Program Aid No. 1644

## Strike One— You're Out !

Wildlife Services  
Helps Reduce Wildlife  
Conflicts at Airports



[www.aphis.usda.gov/ws](http://www.aphis.usda.gov/ws)

### Strike One—You're Out!

Unlike the sport of baseball, it takes only a single strike with wildlife to render airport or air operations out of service. Reporting wildlife strikes to the FAA and working with WS to manage local wildlife populations are the two most important steps the aviation industry can take to address the problem of wildlife hazards at airports.

Airport representatives can contact their nearest WS Regional Office, the WS Operational Support Staff, or their FAA Airport Certification Inspector. These offices will direct airport managers and operators to the appropriate WS State Director, who is prepared to work with industry managers to determine their appropriate wildlife hazard-management needs. A listing of WS State and Regional Offices can also be found on the Internet at <http://www.aphis.usda.gov/ws>.

### WS' Office Phone Numbers

- Eastern Regional Office: (919) 716-5635
- Western Regional Office: (970) 494-7443
- Operational Support Staff: (301) 734-7921
- National Wildlife Research Center: (970) 266-6000

*Cover photo:* Takeoff and landing are not a time for the unexpected to occur. APHIS' Wildlife Services can help minimize or eliminate unexpected collisions with wildlife during these crucial moments of flight.

*Photo credits:* The images in figures 3 and 4 were taken by APHIS photographer R. Anson Eaglin. All remaining images come from the APHIS photo collection.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Revised August 2004



**Figure 4**—With wildlife populations increasing and over 28 million commercial aircraft departures in the United States each year, more attention must be paid to reducing collisions between aircraft and wildlife.

### The Pitch

WS provides assistance to people experiencing problems caused by wildlife. The mission of WS is to protect agriculture, property, natural resources, and human health and safety from wildlife damage. WS works closely with the FAA, U.S. military, and the aviation industry to research wildlife hazards at airports and to reduce the economic impacts and hazards to aviation caused by wildlife.

WS' experienced biologists are skilled and certified in managing wildlife hazards at airports. These biologists have a unique understanding of the interactions of wildlife with human activities in airport environments.

The methods used by WS to reduce the risk of wildlife strikes to aircraft are based on environmentally sound research conducted at WS' National Wildlife Research Center, the world's only scientific research center devoted entirely to the development of methods and technology for wildlife damage management.

What does WS provide in an airport consultation?

- A site visit and initial overview of wildlife attractants and hazards on and around the airport
- Identification of wildlife species observed and their legal status
- Strike data analysis
- A verbal debriefing and written summary letter containing appropriate wildlife hazard-management recommendations